

SEQUENCE LISTING

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<110>  Hidai, Chiaki
<120>  Protein Capable of Deposition onto Extracellular Matrix
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Ser Glu Ala Tyr Arg Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys	
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Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile Asn Ala Trp Thr Ala Ala	
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Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr Ser Asn Asp Gly Lys Thr	
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Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys Pro Arg Gly Phe Asn
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Gly Ile His Cys Gln His Asn Ile Asn Glu Cys Glu Ala Glu Pro Cys
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Arg Asn Gly Gly Ile Cys Thr Asp Leu Val Ala Asn Tyr Ser Cys Glu
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Cys Pro Gly Glu Phe Met Gly Arg Asn Cys Gln Tyr Lys Cys Ser Gly
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Ser Ser Thr His Arg Ala Leu Phe Gly Leu Arg Lys Trp Tyr Pro Tyr
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Trp Ala Met Tyr Lys Val Lys Gly Thr Asn Glu Glu Met Val Phe Arg
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Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala Asn Ser Phe Thr Pro Pro
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Val	Ala	Ser	Asp	Glu	Glu	Lys	Pro	Thr	Ser	Ala	Gly	Pro	Cys	Ile	Pro	
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Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro Gln Ile Cys Arg Arg His	
290 295 300	
tgt act tta aga atg gaa ctt ctt ggc tgt gag ctc tca ggc tgt tca	960
Cys Thr Leu Arg Met Glu Leu Leu Gly Cys Glu Leu Ser Gly Cys Ser	
305 310 315 320	
gaa cct ttg ggg atg aaa tca ggg cat ata caa gac tac cag atc act	1008
Glu Pro Leu Gly Met Lys Ser Gly His Ile Gln Asp Tyr Gln Ile Thr	
325 330 335	
gcc tcc agc gtc ttc aga aca ctc aac atg gac atg ttt act tgg gaa	1056
Ala Ser Ser Val Phe Arg Thr Leu Asn Met Asp Met Phe Thr Trp Glu	
340 345 350	
cca agg aaa gcc agg ctg gac aag caa ggc aaa gta aat	1095
Pro Arg Lys Ala Arg Leu Asp Lys Gln Gly Lys Val Asn	
355 360 365	

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 <213> Mus musculus

<400> 8

Met Lys His Leu Val Ala Ala Trp Leu Leu Val Gly Leu Ser Leu Gly	
1 5 10 15	
Val Pro Gln Phe Gly Lys Gly Asp Ile Cys Asn Pro Asn Pro Cys Glu	
20 25 30	
Asn Gly Gly Ile Cys Leu Ser Gly Leu Ala Asp Asp Ser Phe Ser Cys	
35 40 45	
Glu Cys Pro Glu Gly Phe Ala Gly Pro Asn Cys Ser Ser Val Val Glu	
50 55 60	
Val Ala Ser Asp Glu Glu Lys Pro Thr Ser Ala Gly Pro Cys Ile Pro	

65

70

75

80

Asn Pro Cys His Asn Gly Gly Thr Cys Glu Ile Ser Glu Ala Tyr Arg
85 90 95

Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys Pro Arg Gly Phe Asn
100 105 110

Gly Ile His Cys Gln His Asn Ile Asn Glu Cys Glu Ala Glu Pro Cys
115 120 125

Arg Asn Gly Gly Ile Cys Thr Asp Leu Val Ala Asn Tyr Ser Cys Glu
130 135 140

Cys Pro Gly Glu Phe Met Gly Arg Asn Cys Gln Tyr Lys Cys Ser Gly
145 150 155 160

Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser Asn Gln Gln Ile Thr Ala
165 170 175

Ser Ser Thr His Arg Ala Leu Phe Gly Leu Arg Lys Trp Tyr Pro Tyr
180 185 190

Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile Asn Ala Trp Thr Ala Ala
195 200 205

Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile Asn Leu Gln Arg Lys Met
210 215 220

Arg Val Thr Gly Val Ile Thr Gln Gly Ala Lys Arg Ile Gly Ser Pro
225 230 235 240

Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr Ser Asn Asp Gly Lys Thr
245 250 255

Trp Ala Met Tyr Lys Val Lys Gly Thr Asn Glu Glu Met Val Phe Arg
260 265 270

Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala Asn Ser Phe Thr Pro Pro
275 280 285

Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro Gln Ile Cys Arg Arg His
290 295 300

Cys Thr Leu Arg Met Glu Leu Leu Gly Cys Glu Leu Ser Gly Cys Ser

305		310		315		320									
Glu	Pro	Leu	Gly	Met	Lys	Ser	Gly	His	Ile	Gln	Asp	Tyr	Gln	Ile	Thr
				325					330					335	
Ala	Ser	Ser	Val	Phe	Arg	Thr	Leu	Asn	Met	Asp	Met	Phe	Thr	Trp	Glu
			340					345					350		
Pro	Arg	Lys	Ala	Arg	Leu	Asp	Lys	Gln	Gly	Lys	Val	Asn			
		355					360					365			

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<220>
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Met Lys His Leu Val Ala Ala Trp Leu Leu Val Gly Leu Ser Leu Gly	
1 5 10 15	
gtg ccc cag ttc ggc aaa ggt gac att tgc aac ccg aac ccc tgt gaa	96
Val Pro Gln Phe Gly Lys Gly Asp Ile Cys Asn Pro Asn Pro Cys Glu	
20 25 30	
aat ggt ggc atc tgt ctg tca gga ctg gct gat gat tcc ttt tcc tgt	144
Asn Gly Gly Ile Cys Leu Ser Gly Leu Ala Asp Asp Ser Phe Ser Cys	
35 40 45	
gag tgt cca gaa ggc ttc gca ggt ccg aac tgc tct agt gtt gtg gag	192
Glu Cys Pro Glu Gly Phe Ala Gly Pro Asn Cys Ser Ser Val Val Glu	
50 55 60	
gtt gca tca gat gaa gaa aag cct act tca gca ggt ccc tgc atc cct	240
Val Ala Ser Asp Glu Glu Lys Pro Thr Ser Ala Gly Pro Cys Ile Pro	
65 70 75 80	
aac cca tgc cat aac gga gga acc tgt gag ata agc gaa gcc tat cga	288
Asn Pro Cys His Asn Gly Gly Thr Cys Glu Ile Ser Glu Ala Tyr Arg	
85 90 95	
gga gac aca ttc ata ggc tat gtt tgt aaa tgt cct cgg gga ttt aat	336
Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys Pro Arg Gly Phe Asn	
100 105 110	
ggg att cac tgt cag cac aat ata aat gaa tgt gaa gct gag cct tgc	384
Gly Ile His Cys Gln His Asn Ile Asn Glu Cys Glu Ala Glu Pro Cys	
115 120 125	
aga aat ggc gga ata tgt acc gac ctt gtt gct aac tac tct tgt gaa	432
Arg Asn Gly Gly Ile Cys Thr Asp Leu Val Ala Asn Tyr Ser Cys Glu	
130 135 140	

tgc cca gga gaa ttt atg gga cga aat tgt caa tat aaa tgc tct ggg	480
Cys Pro Gly Glu Phe Met Gly Arg Asn Cys Gln Tyr Lys Cys Ser Gly	
145 150 155 160	
cca ttg gga atc gaa ggt ggg atc ata tct aat cag caa atc aca gct	528
Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser Asn Gln Gln Ile Thr Ala	
165 170 175	
tca tct act cac cga gct ctt ttt gga ctc cgg aag tgg tat ccc tac	576
Ser Ser Thr His Arg Ala Leu Phe Gly Leu Arg Lys Trp Tyr Pro Tyr	
180 185 190	
tat gct cga ctt aat aag aag ggc ctt ata aat gcc tgg aca gct gct	624
Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile Asn Ala Trp Thr Ala Ala	
195 200 205	
gaa aat gac aga tgg cca tgg att cag ata aat ttg caa aga aaa atg	672
Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile Asn Leu Gln Arg Lys Met	
210 215 220	
aga gtc act ggt gtt att acc caa gga gca aaa agg att gga agc cca	720
Arg Val Thr Gly Val Ile Thr Gln Gly Ala Lys Arg Ile Gly Ser Pro	
225 230 235 240	
gag tac ata aaa tcc tac aaa att gcc tac agc aat gac ggg aag acc	768
Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr Ser Asn Asp Gly Lys Thr	
245 250 255	
tgg gca atg tac aaa gta aaa ggc acc aat gaa gag atg gtc ttt cgt	816
Trp Ala Met Tyr Lys Val Lys Gly Thr Asn Glu Glu Met Val Phe Arg	
260 265 270	
gga aat gtt gat aac aac aca cca tat gct aat tct ttc aca ccc cca	864
Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala Asn Ser Phe Thr Pro Pro	
275 280 285	
atc aaa gct cag tat gta aga ctc tac ccc caa att tgt cga agg cat	912
Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro Gln Ile Cys Arg Arg His	
290 295 300	
tgt act tta aga atg gaa ctt ctt ggc tgt gag ctc tca ggc tgt tca	960
Cys Thr Leu Arg Met Glu Leu Leu Gly Cys Glu Leu Ser Gly Cys Ser	
305 310 315 320	
gaa cct ttg ggg atg aaa tca ggg cat ata caa gac tac cag atc act	1008
Glu Pro Leu Gly Met Lys Ser Gly His Ile Gln Asp Tyr Gln Ile Thr	
325 330 335	
gcc tcc agc gtc ttc aga aca ctc aac atg gac atg ttt act tgg gaa	1056
Ala Ser Ser Val Phe Arg Thr Leu Asn Met Asp Met Phe Thr Trp Glu	
340 345 350	
cca agg aaa gcc agg ctg gac aag caa ggc aaa gta aat gcc tgg act	1104
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<213> Mus musculus

<400> 10

Met Lys His Leu Val Ala Ala Trp Leu Leu Val Gly Leu Ser Leu Gly
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Val Pro Gln Phe Gly Lys Gly Asp Ile Cys Asn Pro Asn Pro Cys Glu
20 25 30

Asn Gly Gly Ile Cys Leu Ser Gly Leu Ala Asp Asp Ser Phe Ser Cys
35 40 45

Glu Cys Pro Glu Gly Phe Ala Gly Pro Asn Cys Ser Ser Val Val Glu
50 55 60

Val Ala Ser Asp Glu Glu Lys Pro Thr Ser Ala Gly Pro Cys Ile Pro
65 70 75 80

Asn Pro Cys His Asn Gly Gly Thr Cys Glu Ile Ser Glu Ala Tyr Arg
85 90 95

Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys Pro Arg Gly Phe Asn
100 105 110

Gly Ile His Cys Gln His Asn Ile Asn Glu Cys Glu Ala Glu Pro Cys
115 120 125

Arg Asn Gly Gly Ile Cys Thr Asp Leu Val Ala Asn Tyr Ser Cys Glu
130 135 140

Cys Pro Gly Glu Phe Met Gly Arg Asn Cys Gln Tyr Lys Cys Ser Gly
145 150 155 160

Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser Asn Gln Gln Ile Thr Ala
165 170 175

Ser Ser Thr His Arg Ala Leu Phe Gly Leu Arg Lys Trp Tyr Pro Tyr
180 185 190

Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile Asn Ala Trp Thr Ala Ala
195 200 205

Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile Asn Leu Gln Arg Lys Met
210 215 220

Arg Val Thr Gly Val Ile Thr Gln Gly Ala Lys Arg Ile Gly Ser Pro

225		230		235		240	
Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr Ser Asn Asp Gly Lys Thr							
		245		250		255	
Trp Ala Met Tyr Lys Val Lys Gly Thr Asn Glu Glu Met Val Phe Arg							
		260		265		270	
Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala Asn Ser Phe Thr Pro Pro							
		275		280		285	
Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro Gln Ile Cys Arg Arg His							
		290		295		300	
Cys Thr Leu Arg Met Glu Leu Leu Gly Cys Glu Leu Ser Gly Cys Ser							
305		310		315		320	
Glu Pro Leu Gly Met Lys Ser Gly His Ile Gln Asp Tyr Gln Ile Thr							
		325		330		335	
Ala Ser Ser Val Phe Arg Thr Leu Asn Met Asp Met Phe Thr Trp Glu							
		340		345		350	
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Met Lys His Leu Val Ala Ala Trp Leu Leu Val Gly Leu Ser Leu Gly							
1		5		10		15	
gtg ccc cag ttc ggc aaa ggt gac att tgc aac ccg aac ccc tgt gaa							96
Val Pro Gln Phe Gly Lys Gly Asp Ile Cys Asn Pro Asn Pro Cys Glu							
		20		25		30	
aat ggt ggc atc tgt ctg tca gga ctg gct gat gat tcc ttt tcc tgt							144
Asn Gly Gly Ile Cys Leu Ser Gly Leu Ala Asp Asp Ser Phe Ser Cys							
		35		40		45	
gag tgt cca gaa ggc ttc gca ggt ccg aac tgc tct agt gtt gtg gag							192
Glu Cys Pro Glu Gly Phe Ala Gly Pro Asn Cys Ser Ser Val Val Glu							

50	55	60	
gtt gca tca gat gaa gaa aag cct act tca gca ggt ccc tgc atc cct Val Ala Ser Asp Glu Glu Lys Pro Thr Ser Ala Gly Pro Cys Ile Pro 65 70 75 80			240
aac cca tgc cat aac gga gga acc tgt gag ata agc gaa gcc tat cga Asn Pro Cys His Asn Gly Gly Thr Cys Glu Ile Ser Glu Ala Tyr Arg 85 90 95			288
gga gac aca ttc ata ggc tat gtt tgt aaa tgt cct cgg gga ttt aat Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys Pro Arg Gly Phe Asn 100 105 110			336
ggg att cac tgt cag cac aat ata aat gaa tgt gaa gct gag cct tgc Gly Ile His Cys Gln His Asn Ile Asn Glu Cys Glu Ala Glu Pro Cys 115 120 125			384
aga aat ggc gga ata tgt acc gac ctt gtt gct aac tac tct tgt gaa Arg Asn Gly Gly Ile Cys Thr Asp Leu Val Ala Asn Tyr Ser Cys Glu 130 135 140			432
tgc cca gga gaa ttt atg gga cga aat tgt caa tat aaa tgc tct ggg Cys Pro Gly Glu Phe Met Gly Arg Asn Cys Gln Tyr Lys Cys Ser Gly 145 150 155 160			480
cca ttg gga atc gaa ggt ggg atc ata tct aat cag caa atc aca gct Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser Asn Gln Gln Ile Thr Ala 165 170 175			528
tca tct act cac cga gct ctt ttt gga ctc cgg aag tgg tat ccc tac Ser Ser Thr His Arg Ala Leu Phe Gly Leu Arg Lys Trp Tyr Pro Tyr 180 185 190			576
tat gct cga ctt aat aag aag ggc ctt ata aat gcc tgg aca gct gct Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile Asn Ala Trp Thr Ala Ala 195 200 205			624
gaa aat gac aga tgg cca tgg att cag ata aat ttg caa aga aaa atg Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile Asn Leu Gln Arg Lys Met 210 215 220			672
aga gtc act ggt gtt att acc caa gga gca aaa agg att gga agc cca Arg Val Thr Gly Val Ile Thr Gln Gly Ala Lys Arg Ile Gly Ser Pro 225 230 235 240			720
gag tac ata aaa tcc tac aaa att gcc tac agc aat gac ggg aag acc Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr Ser Asn Asp Gly Lys Thr 245 250 255			768
tgg gca atg tac aaa gta aaa ggc acc aat gaa gag atg gtc ttt cgt Trp Ala Met Tyr Lys Val Lys Gly Thr Asn Glu Glu Met Val Phe Arg 260 265 270			816
gga aat gtt gat aac aac aca cca tat gct aat tct ttc aca ccc cca Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala Asn Ser Phe Thr Pro Pro 275 280 285			864
atc aaa gct cag tat gta aga ctc tac ccc caa att tgt cga agg cat Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro Gln Ile Cys Arg Arg His 290 295 300			912

tgt act tta aga atg gaa ctt ctt ggc tgt gag ctc tca ggc tgt tca	960
Cys Thr Leu Arg Met Glu Leu Leu Gly Cys Glu Leu Ser Gly Cys Ser	
305 310 315 320	

gaa cct ttg ggg atg aaa tca ggg cat ata caa gac tac cag atc act	1008
Glu Pro Leu Gly Met Lys Ser Gly His Ile Gln Asp Tyr Gln Ile Thr	
325 330 335	

gcc tcc agc gtc ttc aga aca ctc aac atg gac atg ttt act tgg gaa	1056
Ala Ser Ser Val Phe Arg Thr Leu Asn Met Asp Met Phe Thr Trp Glu	
340 345 350	

cca agg aaa gcc agg ctg gac aag caa ggc aaa gta aat gcc tgg act	1104
Pro Arg Lys Ala Arg Leu Asp Lys Gln Gly Lys Val Asn Ala Trp Thr	
355 360 365	

tcc ggc cat aac gac cag tca caa tgg tta cag gtt gat ctt ctt gtc	1152
Ser Gly His Asn Asp Gln Ser Gln Trp Leu Gln Val Asp Leu Leu Val	
370 375 380	

cct	1155
Pro	
385	

<210> 12
 <211> 385
 <212> PRT
 <213> Mus musculus

<400> 12

Met Lys His Leu Val Ala Ala Trp Leu Leu Val Gly Leu Ser Leu Gly
1 5 10 15

Val Pro Gln Phe Gly Lys Gly Asp Ile Cys Asn Pro Asn Pro Cys Glu
20 25 30

Asn Gly Gly Ile Cys Leu Ser Gly Leu Ala Asp Asp Ser Phe Ser Cys
35 40 45

Glu Cys Pro Glu Gly Phe Ala Gly Pro Asn Cys Ser Ser Val Val Glu
50 55 60

Val Ala Ser Asp Glu Glu Lys Pro Thr Ser Ala Gly Pro Cys Ile Pro
65 70 75 80

Asn Pro Cys His Asn Gly Gly Thr Cys Glu Ile Ser Glu Ala Tyr Arg
85 90 95

Gly Asp Thr Phe Ile Gly Tyr Val Cys Lys Cys Pro Arg Gly Phe Asn
100 105 110

Gly Ile His Cys Gln His Asn Ile Asn Glu Cys Glu Ala Glu Pro Cys
115 120 125

Arg Asn Gly Gly Ile Cys Thr Asp Leu Val Ala Asn Tyr Ser Cys Glu
130 135 140

Cys Pro Gly Glu Phe Met Gly Arg Asn Cys Gln Tyr Lys Cys Ser Gly
145 150 155 160

Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser Asn Gln Gln Ile Thr Ala
165 170 175

Ser Ser Thr His Arg Ala Leu Phe Gly Leu Arg Lys Trp Tyr Pro Tyr
180 185 190

Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile Asn Ala Trp Thr Ala Ala
195 200 205

Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile Asn Leu Gln Arg Lys Met
210 215 220

Arg Val Thr Gly Val Ile Thr Gln Gly Ala Lys Arg Ile Gly Ser Pro
225 230 235 240

Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr Ser Asn Asp Gly Lys Thr
245 250 255

Trp Ala Met Tyr Lys Val Lys Gly Thr Asn Glu Glu Met Val Phe Arg
260 265 270

Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala Asn Ser Phe Thr Pro Pro
275 280 285

Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro Gln Ile Cys Arg Arg His
290 295 300

Cys Thr Leu Arg Met Glu Leu Leu Gly Cys Glu Leu Ser Gly Cys Ser
305 310 315 320

Glu Pro Leu Gly Met Lys Ser Gly His Ile Gln Asp Tyr Gln Ile Thr
325 330 335

Ala Ser Ser Val Phe Arg Thr Leu Asn Met Asp Met Phe Thr Trp Glu
340 345 350

Pro Arg Lys Ala Arg Leu Asp Lys Gln Gly Lys Val Asn Ala Trp Thr
 355 360 365

Ser Gly His Asn Asp Gln Ser Gln Trp Leu Gln Val Asp Leu Leu Val
 370 375 380

Pro
 385

<210> 13
 <211> 789
 <212> DNA
 <213> Mus musculus

<220>
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 <222> (1)..(789)

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 Ile Asn Leu Gln Arg Lys Met Arg Val Thr Gly Val Ile Thr Gln Gly
 1 5 10 15
 gca aaa agg att gga agc cca gag tac ata aaa tcc tac aaa att gcc 96
 Ala Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala
 20 25 30
 tac agc aat gac ggg aag acc tgg gca atg tac aaa gta aaa ggc acc 144
 Tyr Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr
 35 40 45
 aat gaa gag atg gtc ttt cgt gga aat gtt gat aac aac aca cca tat 192
 Asn Glu Glu Met Val Phe Arg Gly Asn Val Asp Asn Asn Thr Pro Tyr
 50 55 60
 gct aat tct ttc aca ccc cca atc aaa gct cag tat gta aga ctc tac 240
 Ala Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr
 65 70 75 80
 ccc caa att tgt cga agg cat tgt act tta aga atg gaa ctt ctt ggc 288
 Pro Gln Ile Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly
 85 90 95
 tgt gag ctc tca ggc tgt tca gaa cct ttg ggg atg aaa tca ggc cat 336
 Cys Glu Leu Ser Gly Cys Ser Glu Pro Leu Gly Met Lys Ser Gly His
 100 105 110
 ata caa gac tac cag atc act gcc tcc agc gtc ttc aga aca ctc aac 384
 Ile Gln Asp Tyr Gln Ile Thr Ala Ser Ser Val Phe Arg Thr Leu Asn
 115 120 125
 atg gac atg ttt act tgg gaa cca agg aaa gcc agg ctg gac aag caa 432
 Met Asp Met Phe Thr Trp Glu Pro Arg Lys Ala Arg Leu Asp Lys Gln
 130 135 140

ggc	aaa	gta	aat	gcc	tgg	act	tcc	ggc	cat	aac	gac	cag	tca	caa	tgg	480
Gly	Lys	Val	Asn	Ala	Trp	Thr	Ser	Gly	His	Asn	Asp	Gln	Ser	Gln	Trp	
145					150					155					160	

tta	cag	gtt	gat	ctt	ctt	gtc	cct	act	aag	gtg	aca	ggc	atc	att	aca	528
Leu	Gln	Val	Asp	Leu	Leu	Val	Pro	Thr	Lys	Val	Thr	Gly	Ile	Ile	Thr	
				165					170					175		

caa	gga	gct	aaa	gat	ttt	ggt	cac	gtg	cag	ttt	gtt	ggg	tca	tac	aaa	576
Gln	Gly	Ala	Lys	Asp	Phe	Gly	His	Val	Gln	Phe	Val	Gly	Ser	Tyr	Lys	
			180					185					190			

cta	gct	tac	agc	aat	gat	gga	gaa	cac	tgg	atg	gtg	cac	cag	gat	gaa	624
Leu	Ala	Tyr	Ser	Asn	Asp	Gly	Glu	His	Trp	Met	Val	His	Gln	Asp	Glu	
		195					200					205				

aaa	cag	agg	aaa	gac	aag	gtt	ttt	caa	ggc	aat	ttt	gac	aat	gac	act	672
Lys	Gln	Arg	Lys	Asp	Lys	Val	Phe	Gln	Gly	Asn	Phe	Asp	Asn	Asp	Thr	
	210					215					220					

cac	agg	aaa	aat	gtc	atc	gac	cct	ccc	atc	tat	gca	cga	ttc	ata	aga	720
His	Arg	Lys	Asn	Val	Ile	Asp	Pro	Pro	Ile	Tyr	Ala	Arg	Phe	Ile	Arg	
225				230						235					240	

atc	ctt	cct	tgg	tcc	tgg	tat	gga	agg	atc	act	ctg	cgg	tca	gag	ctg	768
Ile	Leu	Pro	Trp	Ser	Trp	Tyr	Gly	Arg	Ile	Thr	Leu	Arg	Ser	Glu	Leu	
			245					250						255		

ctg	ggc	tgc	gca	gag	gag	gaa										789
Leu	Gly	Cys	Ala	Glu	Glu	Glu										
			260													

<210> 14
 <211> 263
 <212> PRT
 <213> Mus musculus

<400> 14

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Ala	Lys	Arg	Ile	Gly	Ser	Pro	Glu	Tyr	Ile	Lys	Ser	Tyr	Lys	Ile	Ala
			20					25					30		

Tyr	Ser	Asn	Asp	Gly	Lys	Thr	Trp	Ala	Met	Tyr	Lys	Val	Lys	Gly	Thr
		35					40					45			

Asn	Glu	Glu	Met	Val	Phe	Arg	Gly	Asn	Val	Asp	Asn	Asn	Thr	Pro	Tyr
	50					55					60				

Ala	Asn	Ser	Phe	Thr	Pro	Pro	Ile	Lys	Ala	Gln	Tyr	Val	Arg	Leu	Tyr
65					70					75					80

Pro Gln Ile Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly
85 90 95

Cys Glu Leu Ser Gly Cys Ser Glu Pro Leu Gly Met Lys Ser Gly His
100 105 110

Ile Gln Asp Tyr Gln Ile Thr Ala Ser Ser Val Phe Arg Thr Leu Asn
115 120 125

Met Asp Met Phe Thr Trp Glu Pro Arg Lys Ala Arg Leu Asp Lys Gln
130 135 140

Gly Lys Val Asn Ala Trp Thr Ser Gly His Asn Asp Gln Ser Gln Trp
145 150 155 160

Leu Gln Val Asp Leu Leu Val Pro Thr Lys Val Thr Gly Ile Ile Thr
165 170 175

Gln Gly Ala Lys Asp Phe Gly His Val Gln Phe Val Gly Ser Tyr Lys
180 185 190

Leu Ala Tyr Ser Asn Asp Gly Glu His Trp Met Val His Gln Asp Glu
195 200 205

Lys Gln Arg Lys Asp Lys Val Phe Gln Gly Asn Phe Asp Asn Asp Thr
210 215 220

His Arg Lys Asn Val Ile Asp Pro Pro Ile Tyr Ala Arg Phe Ile Arg
225 230 235 240

Ile Leu Pro Trp Ser Trp Tyr Gly Arg Ile Thr Leu Arg Ser Glu Leu
245 250 255

Leu Gly Cys Ala Glu Glu Glu
260

<210> 15
<211> 306
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)..(306)

<400> 15

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1 5 10 15	
gca aaa agg att gga agc cca gag tac ata aaa tcc tac aaa att gcc	96
Ala Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala	
20 25 30	
tac agc aat gac ggg aag acc tgg gca atg tac aaa gta aaa ggc acc	144
Tyr Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr	
35 40 45	
aat gaa gag atg gtc ttt cgt gga aat gtt gat aac aac aca cca tat	192
Asn Glu Glu Met Val Phe Arg Gly Asn Val Asp Asn Asn Thr Pro Tyr	
50 55 60	
gct aat tct ttc aca ccc cca atc aaa gct cag tat gta aga ctc tac	240
Ala Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr	
65 70 75 80	
ccc caa att tgt cga agg cat tgt act tta aga atg gaa ctt ctt ggc	288
Pro Gln Ile Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly	
85 90 95	
tgt gag ctc tca ggc tgt	306
Cys Glu Leu Ser Gly Cys	
100	

<210> 16
 <211> 102
 <212> PRT
 <213> Mus musculus

<400> 16

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Ala Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala	
20 25 30	
Tyr Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr	
35 40 45	
Asn Glu Glu Met Val Phe Arg Gly Asn Val Asp Asn Asn Thr Pro Tyr	
50 55 60	
Ala Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr	
65 70 75 80	
Pro Gln Ile Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly	
85 90 95	

Cys Glu Leu Ser Gly Cys
100

<210> 17
<211> 678
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)..(678)

<400> 17
tgt gaa gct gag cct tgc aga aat ggc gga ata tgt acc gac ctt gtt 48
Cys Glu Ala Glu Pro Cys Arg Asn Gly Gly Ile Cys Thr Asp Leu Val
1 5 10 15
gct aac tac tct tgt gaa tgc cca gga gaa ttt atg gga cga aat tgt 96
Ala Asn Tyr Ser Cys Glu Cys Pro Gly Glu Phe Met Gly Arg Asn Cys
20 25 30
caa tat aaa tgc tct ggg cca ttg gga atc gaa ggt ggg atc ata tct 144
Gln Tyr Lys Cys Ser Gly Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser
35 40 45
aat cag caa atc aca gct tca tct act cac cga gct ctt ttt gga ctc 192
Asn Gln Ile Thr Ala Ser Thr His Arg Ala Leu Phe Gly Leu
50 55 60
cgg aag tgg tat ccc tac tat gct cga ctt aat aag aag ggc ctt ata 240
Arg Lys Trp Tyr Pro Tyr Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile
65 70 75 80
aat gcc tgg aca gct gct gaa aat gac aga tgg cca tgg att cag ata 288
Asn Ala Trp Thr Ala Ala Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile
85 90 95
aat ttg caa aga aaa atg aga gtc act ggt gtt att acc caa gga gca 336
Asn Leu Gln Arg Lys Met Arg Val Thr Gly Val Ile Thr Gln Gly Ala
100 105 110
aaa agg att gga agc cca gag tac ata aaa tcc tac aaa att gcc tac 384
Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr
115 120 125
agc aat gac ggg aag acc tgg gca atg tac aaa gta aaa ggc acc aat 432
Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr Asn
130 135 140
gaa gag atg gtc ttt cgt gga aat gtt gat aac aac aca cca tat gct 480
Glu Glu Met Val Phe Arg Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala
145 150 155 160
aat tct ttc aca ccc cca atc aaa gct cag tat gta aga ctc tac ccc 528
Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro
165 170 175

caa att tgt cga agg cat tgt act tta aga atg gaa ctt ctt ggc tgt	576
Gln Ile Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly Cys	
180 185 190	

gag ctc tca ggc tgt tca gaa cct ttg ggg atg aaa tca ggg cat ata	624
Glu Leu Ser Gly Cys Ser Glu Pro Leu Gly Met Lys Ser Gly His Ile	
195 200 205	

caa gac tac cag atc act gcc tcc agc gtc ttc aga aca ctc aac atg	672
Gln Asp Tyr Gln Ile Thr Ala Ser Ser Val Phe Arg Thr Leu Asn Met	
210 215 220	

gac atg	678
Asp Met	
225	

<210> 18
 <211> 226
 <212> PRT
 <213> Mus musculus

<400> 18

Cys Glu Ala Glu Pro Cys Arg Asn Gly Gly Ile Cys Thr Asp Leu Val
1 5 10 15

Ala Asn Tyr Ser Cys Glu Cys Pro Gly Glu Phe Met Gly Arg Asn Cys
20 25 30

Gln Tyr Lys Cys Ser Gly Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser
35 40 45

Asn Gln Gln Ile Thr Ala Ser Ser Thr His Arg Ala Leu Phe Gly Leu
50 55 60

Arg Lys Trp Tyr Pro Tyr Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile
65 70 75 80

Asn Ala Trp Thr Ala Ala Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile
85 90 95

Asn Leu Gln Arg Lys Met Arg Val Thr Gly Val Ile Thr Gln Gly Ala
100 105 110

Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr
115 120 125

Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr Asn
130 135 140

Glu Glu Met Val Phe Arg Gly Asn Val Asp Asn Asn Thr Pro Tyr Ala
 145 150 155 160

Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro
 165 170 175

Gln Ile Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly Cys
 180 185 190

Glu Leu Ser Gly Cys Ser Glu Pro Leu Gly Met Lys Ser Gly His Ile
 195 200 205

Gln Asp Tyr Gln Ile Thr Ala Ser Ser Val Phe Arg Thr Leu Asn Met
 210 215 220

Asp Met
 225

<210> 19
 <211> 285
 <212> DNA
 <213> Mus musculus

<220>
 <221> CDS
 <222> (1)..(285)

<400> 19
 tgt gaa gct gag cct tgc aga aat ggc gga ata tgt acc gac ctt gtt 48
 Cys Glu Ala Glu Pro Cys Arg Asn Gly Gly Ile Cys Thr Asp Leu Val
 1 5 10 15
 gct aac tac tct tgt gaa tgc cca gga gaa ttt atg gga cga aat tgt 96
 Ala Asn Tyr Ser Cys Glu Cys Pro Gly Glu Phe Met Gly Arg Asn Cys
 20 25 30
 caa tat aaa tgc tct ggg cca ttg gga atc gaa ggt ggg atc ata tct 144
 Gln Tyr Lys Cys Ser Gly Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser
 35 40 45
 aat cag caa atc aca gct tca tct act cac cga gct ctt ttt gga ctc 192
 Asn Gln Gln Ile Thr Ala Ser Ser Thr His Arg Ala Leu Phe Gly Leu
 50 55 60
 cgg aag tgg tat ccc tac tat gct cga ctt aat aag aag ggc ctt ata 240
 Arg Lys Trp Tyr Pro Tyr Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile
 65 70 75 80
 aat gcc tgg aca gct gct gaa aat gac aga tgg cca tgg att cag 285
 Asn Ala Trp Thr Ala Ala Glu Asn Asp Arg Trp Pro Trp Ile Gln
 85 90 95

<210> 20

<211> 95
 <212> PRT
 <213> Mus musculus

<400> 20

Cys Glu Ala Glu Pro Cys Arg Asn Gly Gly Ile Cys Thr Asp Leu Val
 1 5 10 15

Ala Asn Tyr Ser Cys Glu Cys Pro Gly Glu Phe Met Gly Arg Asn Cys
 20 25 30

Gln Tyr Lys Cys Ser Gly Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser
 35 40 45

Asn Gln Gln Ile Thr Ala Ser Ser Thr His Arg Ala Leu Phe Gly Leu
 50 55 60

Arg Lys Trp Tyr Pro Tyr Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile
 65 70 75 80

Asn Ala Trp Thr Ala Ala Glu Asn Asp Arg Trp Pro Trp Ile Gln
 85 90 95

<210> 21
 <211> 396
 <212> DNA
 <213> Mus musculus

<220>
 <221> CDS
 <222> (1)..(396)

<400> 21

ttt act tgg gaa cca agg aaa gcc agg ctg gac aag caa ggc aaa gta 48
 Phe Thr Trp Glu Pro Arg Lys Ala Arg Leu Asp Lys Gln Gly Lys Val
 1 5 10 15

aat gcc tgg act tcc ggc cat aac gac cag tca caa tgg tta cag gtt 96
 Asn Ala Trp Thr Ser Gly His Asn Asp Gln Ser Gln Trp Leu Gln Val
 20 25 30

gat ctt ctt gtc cct act aag gtg aca ggc atc att aca caa gga gct 144
 Asp Leu Leu Val Pro Thr Lys Val Thr Gly Ile Ile Thr Gln Gly Ala
 35 40 45

aaa gat ttt ggt cac gtg cag ttt gtt ggg tca tac aaa cta gct tac 192
 Lys Asp Phe Gly His Val Gln Phe Val Gly Ser Tyr Lys Leu Ala Tyr
 50 55 60

agc aat gat gga gaa cac tgg atg gtg cac cag gat gaa aaa cag agg 240
 Ser Asn Asp Gly Glu His Trp Met Val His Gln Asp Glu Lys Gln Arg
 65 70 75 80

aaa gac aag gtt ttt caa ggc aat ttt gac aat gac act cac agg aaa	288
Lys Asp Lys Val Phe Gln Gly Asn Phe Asp Asn Asp Thr His Arg Lys	
85 90 95	

aat gtc atc gac cct ccc atc tat gca cga ttc ata aga atc ctt cct	336
Asn Val Ile Asp Pro Pro Ile Tyr Ala Arg Phe Ile Arg Ile Leu Pro	
100 105 110	

tgg tcc tgg tat gga agg atc act ctg cgg tca gag ctg ctg ggc tgc	384
Trp Ser Trp Tyr Gly Arg Ile Thr Leu Arg Ser Glu Leu Leu Gly Cys	
115 120 125	

gca gag gag gaa	396
Ala Glu Glu Glu	
130	

<210> 22
 <211> 132
 <212> PRT
 <213> Mus musculus

<400> 22

Phe Thr Trp Glu Pro Arg Lys Ala Arg Leu Asp Lys Gln Gly Lys Val
1 5 10 15

Asn Ala Trp Thr Ser Gly His Asn Asp Gln Ser Gln Trp Leu Gln Val
20 25 30

Asp Leu Leu Val Pro Thr Lys Val Thr Gly Ile Ile Thr Gln Gly Ala
35 40 45

Lys Asp Phe Gly His Val Gln Phe Val Gly Ser Tyr Lys Leu Ala Tyr
50 55 60

Ser Asn Asp Gly Glu His Trp Met Val His Gln Asp Glu Lys Gln Arg
65 70 75 80

Lys Asp Lys Val Phe Gln Gly Asn Phe Asp Asn Asp Thr His Arg Lys
85 90 95

Asn Val Ile Asp Pro Pro Ile Tyr Ala Arg Phe Ile Arg Ile Leu Pro
100 105 110

Trp Ser Trp Tyr Gly Arg Ile Thr Leu Arg Ser Glu Leu Leu Gly Cys
115 120 125

Ala Glu Glu Glu
130

<210> 23

<211> 678
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(678)

<400> 23
 tgc gaa gtt gag cct tgc aaa aat ggt gga ata tgt aca gat ctt gtt 48
 Cys Glu Val Glu Pro Cys Lys Asn Gly Gly Ile Cys Thr Asp Leu Val
 1 5 10 15
 gct aac tat tcc tgt gag tgc cca ggc gaa ttt atg gga aga aat tgt 96
 Ala Asn Tyr Ser Cys Glu Cys Pro Gly Glu Phe Met Gly Arg Asn Cys
 20 25 30
 caa tac aaa tgc tca ggc cca ctg gga att gaa ggt gga att ata tca 144
 Gln Tyr Lys Cys Ser Gly Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser
 35 40 45
 aac cag caa atc aca gct tcc tct act cac cga gct ctt ttt gga ctc 192
 Asn Gln Gln Ile Thr Ala Ser Ser Thr His Arg Ala Leu Phe Gly Leu
 50 55 60
 caa aaa tgg tat ccc tac tat gca cgt ctt aat aag aag ggg ctt ata 240
 Gln Lys Trp Tyr Pro Tyr Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile
 65 70 75 80
 aat gcg tgg aca gct gca gaa aat gac aga tgg ccg tgg att cag ata 288
 Asn Ala Trp Thr Ala Ala Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile
 85 90 95
 aat ttg caa agg aaa atg aga gtt act ggt gtg att acc caa gga gcc 336
 Asn Leu Gln Arg Lys Met Arg Val Thr Gly Val Ile Thr Gln Gly Ala
 100 105 110
 aag agg att gga agc cca gag tat ata aaa tcc tac aaa att gcc tac 384
 Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr
 115 120 125
 agt aat gat gga aag act tgg gca atg tac aaa gtg aaa ggc acc aat 432
 Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr Asn
 130 135 140
 gaa gac atg gtg ttt cgt gga aac att gat aac aac act cca tat gct 480
 Glu Asp Met Val Phe Arg Gly Asn Ile Asp Asn Asn Thr Pro Tyr Ala
 145 150 155 160
 aac tct ttc aca ccc ccc ata aaa gct cag tat gta aga ctc tat ccc 528
 Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro
 165 170 175
 caa gtt tgt cga aga cat tgc act ttg cga atg gaa ctt ctt ggc tgt 576
 Gln Val Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Gly Cys
 180 185 190
 gaa ctg tcg ggt tgt tct gag cct ctg ggt atg aaa tca gga cat ata 624
 Glu Leu Ser Gly Cys Ser Glu Pro Leu Gly Met Lys Ser Gly His Ile
 195 200 205

caa gac tat cag atc act gcc tcc agc atc ttc aga acg ctc aac atg	672
Gln Asp Tyr Gln Ile Thr Ala Ser Ser Ile Phe Arg Thr Leu Asn Met	
210 215 220	

gac atg	678
Asp Met	
225	

<210> 24
 <211> 226
 <212> PRT
 <213> Homo sapiens

<400> 24

Cys Glu Val Glu Pro Cys Lys Asn Gly Gly Ile Cys Thr Asp Leu Val
1 5 10 15

Ala Asn Tyr Ser Cys Glu Cys Pro Gly Glu Phe Met Gly Arg Asn Cys
20 25 30

Gln Tyr Lys Cys Ser Gly Pro Leu Gly Ile Glu Gly Gly Ile Ile Ser
35 40 45

Asn Gln Gln Ile Thr Ala Ser Ser Thr His Arg Ala Leu Phe Gly Leu
50 55 60

Gln Lys Trp Tyr Pro Tyr Tyr Ala Arg Leu Asn Lys Lys Gly Leu Ile
65 70 75 80

Asn Ala Trp Thr Ala Ala Glu Asn Asp Arg Trp Pro Trp Ile Gln Ile
85 90 95

Asn Leu Gln Arg Lys Met Arg Val Thr Gly Val Ile Thr Gln Gly Ala
100 105 110

Lys Arg Ile Gly Ser Pro Glu Tyr Ile Lys Ser Tyr Lys Ile Ala Tyr
115 120 125

Ser Asn Asp Gly Lys Thr Trp Ala Met Tyr Lys Val Lys Gly Thr Asn
130 135 140

Glu Asp Met Val Phe Arg Gly Asn Ile Asp Asn Asn Thr Pro Tyr Ala
145 150 155 160

Asn Ser Phe Thr Pro Pro Ile Lys Ala Gln Tyr Val Arg Leu Tyr Pro
165 170 175

Gln Val Cys Arg Arg His Cys Thr Leu Arg Met Glu Leu Leu Gly Cys
180 185 190

Glu Leu Ser Gly Cys Ser Glu Pro Leu Gly Met Lys Ser Gly His Ile
195 200 205

Gln Asp Tyr Gln Ile Thr Ala Ser Ser Ile Phe Arg Thr Leu Asn Met
210 215 220

Asp Met
225

<210> 25
<211> 26
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic DNA

<400> 25
aaagatctaa cccgaacccc tgtgaa

26

<210> 26
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic DNA

<400> 26
aactcgagca tttgtggatg tgcg

24